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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/724,872

12/02/2003

Yu Yamazaki

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1640

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02/10/2006

FISH & RICHARDSON P.C.

P.O. BOX 1022

MINNEAPOLIS, MN 55440-1022

EXAMINER

NGUYEN, JOSEPH H

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/724,872

Applicant(s)

YAMAZAKI ET AL.

Examiner

Joseph Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/17/06</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-14 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. (US 2001/0055384 A1) in view of Kim (US 6,466,292 B1).

Regarding claim 1, Yamazaki et al. teaches in *figure 24* a first pixel portion in which a plurality of first pixels 4504, 4506 (para [0457], line 1 and para [0459], line 1) are arranged in matrix over a substrate 4401 (para [0426], line 1); wherein each of the plurality of the first pixels comprises a first light emitting element 4504, 4506, 4505 (para [0458], line 1). Yamazaki et al. teaches in *figure 22* a second pixel portion in which a plurality of second pixels 4410, 4412 (para [0433], lines 3-4) are arranged in matrix at a different disposition from the first pixel portion over the substrate 4401, wherein each of the plurality of second pixels comprises a second light emitting element 4410, 4412, 4411 (para [0433], line 4); and wherein the directions of light emission of the first light emitting element and the second light-emitting element are reverse in front and back.

Yamazaki et al. does not teach a light-emitting device comprises both the first pixel portion and the second pixel portion. However, Kim teaches in figure 3 a light

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emitting device (liquid crystal display) comprises both the first pixel portion B and the second pixel portion A (col. 4, lines 45-67, and col. 5, lines 1-25). In view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yamazaki et al. by having a light emitting device comprising both the first pixel portion and the second pixel portion for the purpose of providing an improved light emitting device that can be used to produce a slim sized and light weight mobile telecommunication terminal at a reduced cost (col. 3, lines 27-29 of Kim).

Regarding claim 2, Yamazaki et al. teaches the first light emitting element comprises a first pixel electrode 4504 (para [0457], line 1), a first electroluminescent layer 4505 (para [0458], line 1), and a first counter electrode 4506 (para [0459], line 1), wherein the first pixel portion emits light from a side of the first counter electrode (see figure 24); wherein the second light emitting element comprises a second pixel electrode 4410 (para [0433], lines 3-4), a second electroluminescent layer 4411 (para [0433], line 4), and a second counter electrode 4412 (para [0433], lines 3-4); and wherein the second pixel portion emits light from a side of the second pixel electrode (see figure 22).

Note that the term "counter electrode" is merely a label. Electrodes 4506 (figure 24) and electrode 4412 (figure 22) constitute similar structures as counter electrodes 1002 in figures 1A-1B of the instant application, and therefore function as counter electrodes.

Regarding claim 3, Yamazaki et al. teaches the directions of light emission of the first light emitting element and the second light emitting element are determined depending upon the presence or absence of a reflecting film.

Note that the first pixel electrode 4504 and the second counter electrode 4412 are formed of the aluminum alloy (para [0457], lines 1-3 and para [0432], lines 1-3), which can function as reflecting films since aluminum is a reflective material. When reflecting layer 4504 is placed underneath the electroluminescent layer 4505, light is emitted from a side of the counter electrode 4506 as shown in figure 24. On the contrary, when reflecting layer 4412 is placed above the electroluminescent layer 4411, light is emitted from a side of the second pixel electrode 4410 as shown in figure 22. Therefore, the directions of the light emission depend upon the presence or absence of a reflecting film.

Regarding claims 4 and 29, Yamazaki et al. teaches a first driving portion 4406 (para [0427], line 3) for operating the first pixel portion (figure 24), a second driving portion 4501 (para [0456], line 2) for operating the second pixel portion (figure 22), and a wiring 4403 (para [0426], lines 3-4) for supplying a signal and a means 4402 (para [0426], line 1) for operating either of the first pixel portion or the second pixel portion.

Regarding claim 5, Yamazaki et al. teaches on figure 25 an electronic apparatus using the light-emitting device. Note that a portable phone is an electronic apparatus.

Regarding claim 6, Yamazaki et al. teaches on figure 25 a portable phone using the light-emitting device.

Regarding claim 7, Yamazaki et al. teaches on figure 26 a personal digital assistance (PDA) using the light-emitting device. Since applicant does not define the structure and function of a so-called personal digital assistance, the passive display device in figure 26 is considered a personal digital assistance herein.

Regarding claim 8, Yamazaki et al. teaches a light emitting device comprising a first pixel portion (figure 24) in which a plurality of first pixels 4504, 4506 are arranged in matrix over a substrate 4401; and a second pixel portion (figure 22) in which a plurality of second pixels 4410, 4412 are arranged in matrix at a different disposition from the first pixel portion over the substrate; wherein each of the plurality of first pixels comprises a first light emitting element 4504, 4505, 4506 which emits light from a surface of the substrate in a direction from a back of the substrate to the surface of the substrate; and wherein each of the plurality of second pixels comprises a second light emitting element 4410, 4411, 4412 which emits light from the back of the substrate in a direction from the surface of the substrate to the back of the substrate.

Regarding claim 9, Yamazaki et al. teaches the first light element (figure 24) comprising a first pixel electrode 4504 (para [0457], line 1), a first electroluminescent layer 4505 (para [0458], line 1), and a first counter electrode 4506 (para [0459], line 1); wherein the first pixel portion emits light from a side of the first counter electrode; the second light emitting element (figure 22) comprises a second pixel electrode 4410 (para [0433], lines 3-4), a second electroluminescent layer 4411(para [0433], line 4), and a second counter electrode 4412 (para [0433], lines 3-4); and wherein the second pixel portion emits light from a side of the second pixel electrode.

Regarding claim 10, Yamazaki et al. teaches the directions of light emission of the first light emitting element and the second light emitting element are determined depending upon the presence or absence of a reflecting film (see rejection of claim 3).

Regarding claims 11 and 30, Yamazaki et al. teaches a first driving portion 4406 (para [0427], line 3) for operating the first pixel portion (figure 24), a second driving portion 4501 (para [0456], line 2) for operating the second pixel portion (figure 22), and a wiring 4403 (para [0426], lines 3-4) for supplying a signal and a means 4402 (para [0426], line 1) for operating either of the first pixel portion or the second pixel.

Regarding claim 12, Yamazaki et al. teaches on figure 25 an electronic apparatus using the light-emitting device. Note that a portable phone is an electronic apparatus.

Regarding claim 13, Yamazaki et al. teaches on figure 25 a portable phone using the light-emitting device.

Regarding claim 14, Yamazaki et al. teaches on figure 26 a personal digital assistance (PDA) using the light-emitting device.

Claims 15-28 and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. and Kim in view of Yamanaka et al et al (US 6,304,309 B1).

Regarding claims 15-16, Yamazaki et al. and Kim teach substantially all the structure set forth in the claims (see rejection of claims 1- 3 above). Yamazaki et al. and Kim do not teach a second reflecting film over the second counter electrode. However,

Yamanaka et al. teaches on figure 69 a second reflecting film 332 over the second counter electrode 330 (col. 70, lines 60-67). In view of such teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yamazaki et al. and Kim by having a second reflecting film over the second counter electrode for the purpose of increasing the light emission efficiency in a light emitting device.

Regarding claims 17 and 31, Yamazaki et al. teaches a first driving portion 4406 (para [0427], line 3) for operating the first pixel portion (figure 24), a second driving portion 4501 (para [0456], line 2) for operating the second pixel portion (figure 22), and a wiring 4403 (para [0426], lines 3-4) for supplying a signal and a means 4402 (para [0426], line 1) for operating either of the first pixel portion or the second pixel portion.

Regarding claim 18, Yamazaki et al. teaches on figure 25 an electronic apparatus using the light-emitting device. Note that a portable phone is an electronic apparatus.

Regarding claim 19, Yamazaki et al. teaches on figure 25 a portable phone using the light-emitting device.

Regarding claim 20, Yamazaki et al. teaches on figure 26 a personal digital assistance (PDA) using the light-emitting device.

Regarding claims 21 and 38, Yamazaki et al. teaches a first driving portion 4406 (para [0427], line 3) for operating the first pixel portion (figure 24), a second driving portion 4501 (para [0456], line 2) for operating the second pixel portion (figure 22), and

a wiring 4403 (para [0426], lines 3-4) for supplying a signal and a means 4402 (para [0426], line 1) for operating either of the first pixel portion or the second pixel portion.

Regarding claim 22, Yamazaki et al. teaches on figure 25 an electronic apparatus using the light-emitting device. Note that a portable phone is an electronic apparatus.

Regarding claim 23, Yamazaki et al. teaches on figure 25 a portable phone using the light-emitting device.

Regarding claim 24, Yamazaki et al. teaches on figure 26 a personal digital assistance (PDA) using the light-emitting device.

Regarding claims 25 and 27, Yamanaka et al. teaches that the second reflecting film 322 is aluminum (col. 70, lines 65-66).

Regarding claims 26 and 28, as best understood, Yamazaki et al. teaches that the counter electrode 4506 (figure 24) is formed of a transparent conductive film (para [0459], lines 1-2).

### ***Response to Arguments***

Applicant's arguments filed 01/17/2006 have been fully considered but they are not persuasive.

With respect to claim 1, applicant argues neither Yamazaki et al., Kim nor any proper combination of the two suggests a light emitting device that includes first and second light emitting elements arranged over a substrate so as to emit light in front and back directions as recited in claim 1. However, as described in the rejection of claim 1

above, Yamazaki et al. discloses substantially all the structures set forth in claim 1 except teaching a light emitting device that comprises both the first pixel portion and the second pixel portion. However, Kim shows in figure 3 a light emitting device (liquid crystal display) comprises both the first pixel portion B and the second pixel portion A (col. 4, lines 45-67 and col. 5, lines 1-25). As such, the combination of Yamazaki et al. and Kim reads on claim 1. Further, applicant argues in figure 3 of Kim, upper substrate 100a, lower substrate 100b, a liquid crystal layer 100c are all passive layers that do not emit light and thus Kim would have provided no guidance as to how to arrange light emitting elements such as those described by Yamazaki et al. However, Kim teaches in col. 5, lines 9-13 light is generated in the liquid crystal layer and reflected out by a reflector. In other words, light is emitted in the device as shown in figure 3 of Kim. Moreover, Kim teaches using both the first pixel portion B and the second pixel portion A in a single device would provide a slim size and light weight mobile telecommunication terminal at a reduced cost (col. 3, lines 27-29). Therefore, Kim provides a strong motivation as to how to arrange light-emitting elements such a those described by Yamazaki et al. Accordingly, the rejection of claims 1-32 is proper herein.

### ***Conclusion***

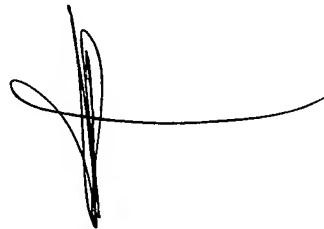
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Nguyen whose telephone number is (571) 272-1734. The examiner can normally be reached on Monday-Friday, 7:30 am- 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

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supervisor, Ken Parker can be reached on (571) 272-2298. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300 for regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JN  
January 20, 2006.

A handwritten signature in black ink, consisting of a stylized 'K' followed by a horizontal line extending to the right.

**KENNETH PARKER**  
**SUPERVISORY PATENT EXAMINER**